

Access DB# 79869

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's full Name: Everett White Examiner #: 67057 Date: 11/08/2002
 Art Unit: 1623 Phone Number 308-4621 Serial Number: 09/955,864
 Mail Box: CM1-8B19 and Bldg/Room Location: CM1-8D12 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be search Include the elected species or structures, key words, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: See Bib Data Sheet

Inventors (please provide full names): See Bib Data Sheet

Earliest priority Filing Date: See Bib Data Sheet

**For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

Please search the water-soluble ionic cellulose ether of Claims 1-6, a process for preparing a cellulose ether of Claims 7 and 8, an emulsion paint of Claim 9; and a method of using the water soluble ionic cellulose ether in Claim 10. Please search the structure of the cellulose ether that is disclosed in Claim 3. A copy of the claim and abstract is provided.

The Bib Data Sheet which discloses the inventor names, title of the invention, and the earliest priority filing date is also provided.

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	Type of Search	Vendors and cost where applicable
Searcher: _____	NA Sequence (#) _____	STN _____
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PTO-1590 (1-2000)



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Bib Data Sheet

CONFIRMATION NO. 1612

SERIAL NUMBER 09/955,864	FILING DATE 09/19/2001 RULE	CLASS 536	GROUP ART UNIT 1623	ATTORNEY DOCKET NO. 1998DE503/Cont.
APPLICANTS Reinhard Doenges, Bad Soden, GERMANY; Juergen Kirchner, Wiesbaden, GERMANY; ** CONTINUING DATA ***** THIS APPLICATION IS A CON OF 09/427,351 10/26/1999 PAT 6,313,287 ** FOREIGN APPLICATIONS ***** GERMANY 198 49 442.4 10/27/1998 IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** 10/18/2001				
Foreign Priority claimed <input type="checkbox"/> yes <input type="checkbox"/> no 35 USC 119 (a-d) conditions met <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> Met after Allowance Verified and Acknowledged Examiner's Signature _____ Initials _____	STATE OR COUNTRY GERMANY	SHEETS DRAWING	TOTAL CLAIMS 10	INDEPENDENT CLAIMS 3
ADDRESS 25255				
TITLE Water-soluble, sulfoalkyl-containing, hydrophobically modified cellulose ethers, process for preparing them, and their use in emulsion paints				
FILING FEE RECEIVED 710	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:		<input type="checkbox"/> All Fees <input type="checkbox"/> 1.16 Fees (Filing) <input type="checkbox"/> 1.17 Fees (Processing Ext. of time) <input type="checkbox"/> 1.18 Fees (Issue) <input type="checkbox"/> Other _____ <input type="checkbox"/> Credit	

Abstract

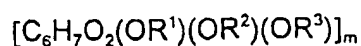
Water-soluble sulfoalkyl-containing hydrophobically modified cellulose ethers, processes for preparing them, and their use in emulsion paints

The present invention relates to water-soluble ionic cellulose ethers from the group of the hydroxyalkylcelluloses which are substituted by on average from 0.001 to 1.0 alkyl group per anhydroglucose unit and which carry from 0.01 to 0.1 sulfoalkyl group per anhydroglucose unit, to processes for preparing them and to the use of water-soluble ionic cellulose ethers from the group of the hydroxyalkylcelluloses which are substituted by on average from 0.001 to 1.0 alkyl group per anhydroglucose unit and which carry from 0.01 to 0.4 sulfoalkyl group per anhydroglucose unit in emulsion paints.

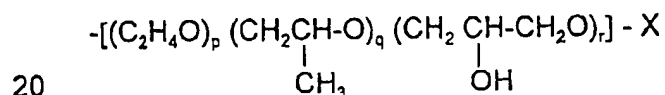
0955364-091901

What is claimed is:

1. A water-soluble ionic cellulose ether from the group of hydroxyalkylcelluloses which is substituted by on average from 0.001 to 1.0 alkyl group per anhydroglucose unit and which carries from 0.01 to 0.1 sulfoalkyl group per anhydroglucose unit.
2. A cellulose ether as claimed in claim 1, wherein the average number of alkyl groups per anhydroglucose unit is from 0.001 to 0.2.
3. A cellulose ether as claimed in claim 1, of the formula



- where $C_6H_7O_2$ is an anhydroglucose unit,
 m is 50 - 3000,
 and R^1, R^2, R^3 independently of one another are each a polyalkylene oxide chain of the formula



- where $X = H, C_nH_{2n+1}, C_nH_{2n+1}O, CH_2-CH_2-SO_3Y$ or $CH_2-CHOH-CH_2SO_3Y$,
 $n = 4 - 20$
 and $Y = H, Na$ or K ,

- and in which
 p, q, and r independently of one another in R^1, R^2 and R^3 can each independently assume values from 0 to 4, the sum of all (p+q+r) added over R^1, R^2 and R^3 per anhydroglucose unit is on average greater than 1.3 and less than 4.5, the sequence of the oxyalkylene units in the polyalkylene oxide chain is arbitrary, and the average number of hydrophobically modified groups per anhydroglucose unit (DS HM) is from 0.001 to 0.2, and the average number of sulfoalkyl groups per anhydroglucose unit is from 0.01 to 0.1.

4. A cellulose ether as claimed in claim 1, wherein the average number of hydrophobically modified groups per anhydroglucose unit (DS HM) is from 0.01 to 0.04.

5 5. A cellulose ether as claimed in claim 1, wherein the average number of sulfoalkyl groups per anhydroglucose unit is from 0.01 to 0.09.

6. A cellulose ether as claimed in claim 1, wherein the sulfoalkyl groups are sulfoethyl groups.

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7. A process for preparing a cellulose ether as claimed in claim 1 by etherifying cellulose with an etherifying agent from the group of alkylene oxides and etherifying with an alkyl halide or an alkyl glycidyl ether and a sulfonate, with base catalysis.

15 8. A process for preparing a cellulose ether as claimed in claim 1 by etherifying cellulose ethers from the group of hydroxyalkylcelluloses with an alkyl halide or an alkyl glycidyl ether and a sulfonate, with base catalysis.

9. An emulsion paint comprising one or more water-soluble ionic cellulose ethers from the group of hydroxyalkylcelluloses which are substituted by on average from 0.001 to 1.0 alkyl group per anhydroglucose unit and which carry from 0.01 to 0.4 sulfoalkyl group per anhydroglucose unit.

20 10. A method of using a water soluble ionic cellulose ether from the group of hydroxyalkylcelluloses which is substituted by on average from 0.001 to 1.0 alkyl group per anhydroglucose unit and which carries from 0.01 to 0.4 sulfoalkyl group per anhydroglucose unit in an emulsion paint.